

[0083] While this disclosure includes specific examples, it will be apparent to one of ordinary skill in the art that various changes in form and details may be made in these examples without departing from the spirit and scope of the claims and their equivalents. The examples described herein are to be considered in a descriptive sense only, and not for purposes of limitation. Descriptions of features or aspects in each example are to be considered as being applicable to similar features or aspects in other examples. Suitable results may be achieved if the described techniques are performed in a different order, and/or if components in a described system, architecture, device, or circuit are combined in a different manner, and/or replaced or supplemented by other components or their equivalents. Therefore, the scope of the disclosure is defined not by the detailed description, but by the claims and their equivalents, and all variations within the scope of the claims and their equivalents are to be construed as being included in the disclosure.

What is claimed is:

1. A wireless power transmitter comprising:
 - a sensor configured to sense an object;
 - a power transmitter configured to wirelessly transmit power to a wireless power receiver; and
 - a controller configured to determine whether the object is the wireless power receiver, and control the power transmitter to wirelessly transmit power to the wireless power receiver upon the object being determined to be the wireless power receiver,
 wherein the sensor and the power transmitter comprise separate coils.
2. The wireless power transmitter of claim 1, wherein the power transmitter is configured to wirelessly transmit the power using a transmitting coil, and
 - the sensor is configured to sense the object coming into proximity therewith using a sensing coil configured to operate regardless of whether the transmitting coil is operating.
3. The wireless power transmitter of claim 1, wherein the sensor is configured to sense the object in proximity therewith, while the power transmitter wirelessly transmits power to the wireless power receiver.
4. The wireless power transmitter of claim 1, wherein the sensor is configured to transmit a short beacon signal under control of the controller, and sense a change in impedance of the short beacon signal to determine whether an object is coming into proximity therewith.
5. The wireless power transmitter of claim 1, wherein the power transmitter comprises:
 - a first resonator comprising a transmitting coil; and
 - a first power amplifier configured to provide power to the first resonator.
6. The wireless power transmitter of claim 5, wherein the sensor comprises:
 - a second resonator comprising a sensing coil; and
 - a detector configured to detect a current or a voltage for the second resonator.

7. The wireless power transmitter of claim 6, wherein the sensor includes a second power amplifier configured to provide power to the second resonator.

8. The wireless power transmitter of claim 1, further comprising:

- a wireless communicator configured to form a local area wireless communications network with the wireless power receiver,

- wherein in response to the sensor being configured to sense the object, the controller is configured to use the local area wireless communications network to determine whether the corresponding object is the wireless power receiver.

9. The wireless power transmitter of claim 1, wherein the sensor is configured to send a long beacon signal to initiate a wireless communication signal from the wireless power receiver.

10. A wireless power transmitter comprising:

- a power transmitter comprising a transmitting coil configured to magnetically couple to a receiving coil of a wireless power receiver;

- a sensor comprising a sensing coil configured to sense an object; and

- a controller configured to control the power transmitter to wirelessly transmit power to the wireless power receiver, upon the object sensed by the sensor being determined to be the wireless power receiver.

11. The wireless power transmitter of claim 10, wherein the power transmitter is configured to supply power to the transmitting coil based on control from the controller, and the transmitting coil is configured to transmit the power to the receiving coil.

12. The wireless power transmitter of claim 10, wherein the sensor is configured to supply the power to the sensing coil according to the controller and to transmit a short beacon signal, and sense a change in impedance of the transmitted short beacon signal to sense an object.

13. The wireless power transmitter of claim 12, wherein the controller is configured to control the sensor to transmit the short beacon signal through the sensing coil, and is configured to maintain transmitting the short beacon signal in response to the transmitting coil wirelessly providing power to the receiving coil.

14. The wireless power transmitter of claim 10, wherein the sensor is configured to transmit a short beacon signal with a preset period, and sense a change in impedance of the transmitted short beacon signal to determine an approach of the object.

15. The wireless power transmitter of claim 10, wherein the wireless power receiver is coupled to a mobile device.

16. The wireless power transmitter of claim 10, wherein the sensor is configured to send a long beacon signal to initiate a wireless communication signal from the wireless power receiver.

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